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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OFFICIAL

In re the Application of:

Sankar, et al.

Group Art Unit: 2126

Application No: 09/384963

Examiner: Li Zhen

Filed: 08/27/1999

Paper No. 6

For: MIXED-MODE EXECUTION FOR OBJECT-ORIENTED PROGRAMMING  
LANGUAGES

AMENDMENT RESPONDING TO 11/05/2003 OFFICE ACTION IN U.S.

APPLICATION NO. 09/384963

Honorable Commissioner of Patents and Trademarks  
PO Box 1450  
Alexandria, VA 22313

Sir:

In response to the 11/05/2003 Office Action in the above-identified application, please  
consider the following arguments supporting allowance of the claimed subject matter:ARGUMENTSRejection of Claims on Art Grounds in the 11/05/2003 Office Action, and Traversal  
ThereofIn the 05 November 2003 Office Action, claims 1-40 have been rejected on prior art  
grounds, under 35 U.S.C 102 and 103, as follows:

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Claims 1-5, 10-13, 16-20, 22, 24, 25, and 30 are rejected under 35 USC 102(b) as being anticipated by Weiss. Applicant notes that no date for this reference is set forth in the Office Action text and requests confirmation of the publication date to be formally indicated by the Examiner in order to clarify the record.

Claims 6-9, 14, 15, 21, 23, 26-29, 31-40 are under 35 USC 103(a) as being unpatentable over Weiss in view of US Patent No. 5999732 to Bak.

The above rejections of the claims 1-40 on the stated art grounds are traversed, and consideration of the patentability of the claims 1- 40 is requested, in light of the following remarks.

In particular, the examiner states that the Weiss reference teaches all the components of the claims indicated, including what the examiner indicates to be “dynamic class-loading” being permitted thereby. *However, by contrast to the present invention, TurboJ/Weiss provides for interpreted byte code (lower-level mode) to be interleaved with native code (an even lower-level mode still, see p. 118, Weiss), not a higher-level mode and a lower-level mode transferring control, as claimed in the present invention (see independent claims).* Prior art at the time of the invention is known to have provided for high level mode of a programming language that is compiled to provide the lower level byte code, which is then further translated into machine language or native code (high-, lower- and lowest-levels, respectively).

Also, as the Examiner indicates, Weiss teaches an “off-line Java-to-native compiler.” Just as with the prior art generally known, Weiss provides for compiling of the code into byte code; however, Weiss provides for optimization via what Weiss refers to as dynamic compiling by a Just-In-Time compiler (JIT) (p. 114, Introduction).

Dynamic compiling occurs on-line, while it is actually executing, adaptively compiling the code, while off-line provides for optimization at before the execution. JIT compiling provides for optimizing byte code, but not necessarily during the running of the program, using a control transfer method as with the present invention. Since the examiner labels the Weiss reference as providing for "off-line" compiling, it would not then simultaneously be providing dynamic compiling, although combination may be possible, it is not taught as claimed by the present invention, which provides for the transferring of control between the levels as desired at any time; thus the Weiss reference teaches away from the present invention, which provides for the possibility of adding new objects to a running program at the lower-level mode of execution via the two-way transfer of control from the lower-level mode of execution to the higher-level mode of execution.

Notably, the examiner indicates that Weiss does not teach determining at least one transfer point in the source code where the execution may be transferred from the SCIP to the BCIP; inserting, during compilation of the source code, a control transfer method that executes the first method from the corresponding transfer point; and extending the bridge class with a method calling to the control transfer method; these steps are consistent with the present invention's ability to add new classes to a running system allowing interactions between the existing code and the newly added code in both directions, high- to low-level mode and vice versa, as set forth in the claims. While the examiner states that the Bak reference provides these steps and that they are combinable with the Weiss reference, Applicant asserts that Bak, either alone or in combination with Weiss, does not provide for two-way transfer of control and interaction between the high- and low-level modes of execution as set forth in the claimed invention.

Furthermore, Applicant asserts that the present invention provides for higher-level mode execution that is used for specific portions of the program whenever detailed information is desired, providing for the higher- and lower-level modes of execution to be used alternatingly while the program is running so that new classes can be added to a running system allowing interactions between existing code and the newly added code in both directions, as set forth in the claims, in particular in independent claim 1. Thus the present invention as claimed is distinguishable over the prior art Weiss reference as applied by the Examiner, either alone or in combination with Bak, to the claims as filed and preliminarily amended.

Therefore, claims 1-40 are asserted to be in patentable condition. Allowance of these claims is hereby respectfully requested. In the event that the Examiner finds additional minor modifications that would place these claims in allowable condition, the Examiner is respectfully requested to make telephonic contact with the Attorney of Record to discuss and make changes via Examiner's Amendment to place the claims in condition for allowance.

The above rejections of the claims 1-40 on the stated art and utility grounds are traversed, and consideration of the patentability of the claims 1-40 is requested, in light of the foregoing remarks. Favorable action is therefore requested.


#### CONCLUSION

In view of the foregoing, claims 1-40 constituting the claims pending in the application, are submitted to be fully patentably and in allowable condition to address and overcome the rejections.

If any issues remain outstanding, incident to the allowance of the application, Examiner Zhen is respectfully requested to contact the undersigned attorney at (919)-664-8222 or via email at [jinang@trianglepatents.com](mailto:jinang@trianglepatents.com) to discuss the resolution of such issues, in order that prosecution of the application may be concluded favorably to the applicant, consistent with the applicant's making of a substantial advance in the art and particularly pointing out and distinctly claiming the subject matter that the applicant regards as the invention.

This Office Action response is submitted via fax to the official group fax number at 703.872.9306 on May 5, 2004 with a request for extension of time and corresponding payment of fees associated therewith.

Respectfully submitted,



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